

# Wood Market Update

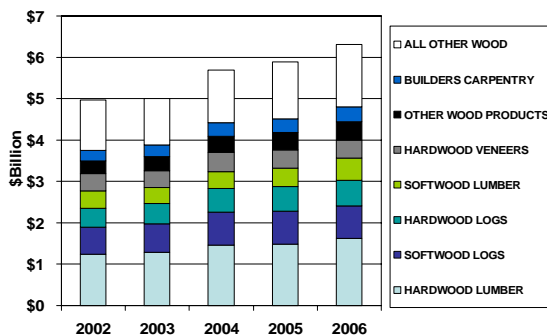
## U.S. Wood Exports Grow

In 2006, the value of U.S. wood exports continued to grow, increasing 7 percent over the previous year to a total of \$6.3 billion. In terms of commodities, increased exports of hardwood lumber, hardwood logs, and softwood lumber more than offset decreased exports of softwood logs, hardwood veneers and softwood chips. In terms of countries, increased exports to Canada, Mexico, China, and Spain more than offset decreased exports to Japan, the United Kingdom, South Korea, and Taiwan.

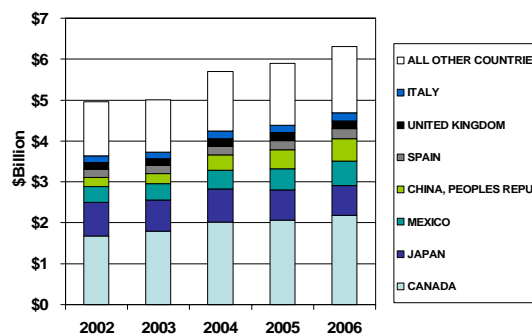
In 2006, hardwood lumber accounted for 24 percent of total wood exports, or \$1.6 billion. Hardwood lumber exports have been driven by strong demand from Europe's interiors and furniture industry, China's enormous furniture industry and Vietnam's growing furniture industry. Demand for white oak increased significantly, with exports increasing from \$271 million in 2002 to \$377 million in 2006. Other important hardwood lumber export species included red oak, maple, cherry, and yellow poplar.

In 2006, softwood logs accounted for 13 percent of total wood exports, or \$790 million. Softwood log export growth has been driven by Canada's demand for spruce and Japan's demand for Douglas-fir. These species are used in structural building components, moldings, doors, windows and furniture. It should be noted that although the value of exports increased since 2002, the value of softwood log exports in 2002 totaled just \$656 million compared to 1993 when exports totaled \$2.3 billion. The dramatic decrease was due in large part to Japan's revised building code requirements, which no longer favored building with Douglas-fir logs.

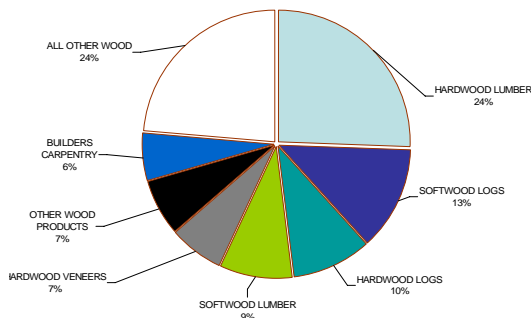
U.S. Wood Exports by Commodity



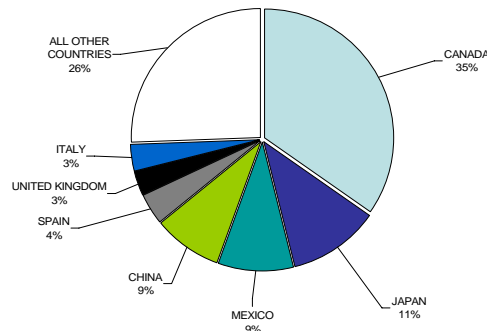
U.S. Wood Exports by Country



2006 U.S. Wood Exports by Commodity



2006 U.S. Wood Exports by Country



# **Wood Market Update**

## **Country Policies Impacting Wood Trade**

### **Brazil**

On March 2, 2006, President Lula signed the Public Forest Management Law (11.284/06) establishing a regulatory milestone for the management of public forests in Brazil. The publication of the new legislation has initiated a transition period that is significantly compromising the rate of logging. The approval and inspection of Forest Stewardship Plans (PMFs), which was previously done by the Brazilian Environment Institute (IBAMA), was transferred to State Environment Offices (OEMA), which lack appropriate infrastructure and personnel for the approval of new PMFs. In order for PMFs to be approved, the owner of the stewardship plan is required to sign a contract with the Ministry of Environment (MMA). The Ministry still has not defined the contract regulating this transition. According to industry sources, in certain Amazon regions, up to 50 percent of mills have closed and over 9,000 employees have lost their jobs.

### **Chile**

Chile has signed trade agreements with many countries, among them Mexico, Canada, European Union, United States, South Korea and the EU. However, no significant changes are expected to occur in terms of trade because some of these countries are not Chile's most important forest products trading partners and others already had low tariffs for wood and wood products before the agreements were signed. Chile has an across the board import duty of 6 percent. Additionally, Chile has signed free trade agreements with several countries, among them: Venezuela, Colombia and Ecuador. All wood product imports from these countries are duty free. Additionally, most imports from the United States and Mercosur countries are duty free.

Most of Chile's imports come from Brazil (19 percent), Argentina (18 percent) and the United States (14 percent). Paper, cartons and other manufactured products are the main imported products (67 percent), followed by furniture and parts (7 percent), cork and barrels for the wine industry (5 percent).

Chile's proposed law, "Law for the Recovery and Promotion of the Native Forest" has been sitting in Congress since 1992. The bill has gone through lengthy discussions and still has not been approved, mainly due to differing views among the various government agencies involved. This law is expected to provide a framework for the sustainable management of Chile's extensive native forests.

### **France**

In an attempt to meet France's emission reduction commitment made in the Kyoto Agreement, the French Ministries of Agriculture, Environment, and Housing, together with other public and sectoral organizations, signed a charter in 2001 to promote the use of wood in the construction sector, particularly targeting public buildings, road works, and social housing. Their goal was to increase wood use 25 percent by 2010 (currently, wood represents about 10 percent of all material used in the construction sector) and thereby lower France's emission of greenhouse gases.

## **Wood Market Update**

Increasing wood use by 25 percent would translate into an increase of 4 million cubic meters by 2010. This program would contribute to lowering France's emissions of carbon dioxide by 7 million MT and account for 14 percent of France's emission reduction as agreed in the Kyoto agreement.

### **Poland**

As a result of Poland's accession to the EU in May 2004, \$6.7 million for forestation of former arable lands became available for the period 2004-2006. There are several requirements governing the use of this funding. One important requirement is that only local species of trees and bushes qualify for this program.

### **Russia**

Russia's role in world trade of forest products does not correspond to the potential of its forest resources base. Russia's market share of the world market for all wood products is still low and consists mostly of unprocessed wood products. The Russian government is trying to pursue long-term policies to improve the sector's efficiency by: 1) increasing the share of processed and higher-value wood and wood products; 2) curbing illegal export and trade of logs; 3) applying tariffs and other government measures to promote the export of processed products versus logs; 4) attracting foreign investment; and, 5) implementation of the Forestry Code and development of unified national forestry policy.

After nearly three years of discussions, a new Forest Code passed its final reading in the State Duma and entered into force on January 1, 2007. Backed by President Putin, the new Code is expected to stimulate foreign investment in the sector by providing tax breaks and facilitating business investments in modernizing the wood processing industry. According to the Federal Forestry Agency, total investment in the forestry industry is likely to reach \$4 billion by 2008, up considerably from \$2.4 billion in 2005. However, forestry analysts estimate that total long-term investments necessary to modernize the forest sector in Russia would total \$24 billion during 2006-2010, of which 80 percent should come from the private sector, including foreign investors. About 60 additional legislative amendments to the new Code are likely to be issued before July 1, 2007, which will enable full transition of the forestry complex operation and management under the new rules.

The Russian Government is still working on a new proposal to apply selective tariff rates for exports of value-added forestry products. According to government resolution #340 dated June 2, 2006, export duties were reduced to zero, beginning July 2, 2006 for certain types of paper and carton. As part of the government's goal to gradually increase the export tariffs on logs, on February 5, 2007, the government published Resolution #75 (to enter into force on July 1, 2007), increasing the export tariff on coniferous logs to 20 percent, but not less than 10 euros for one cubic meter. On April 1, 2008, the tariff will increase to 25 percent, but not less than 15 euros, and as of January 1, 2009, up to 80 percent, but not less than 50 euros.

In addition to gradually increasing export tariffs on round wood, the government is planning to lower import tariffs on high-tech equipment for wood processing. The goal is to reduce exports of

## **Wood Market Update**

unprocessed timber and increase domestic processing of wood products, as stated by President Putin in early February. However, despite these changes in government policy to increase export tariffs for round wood, log exports remain high.

### **Vietnam**

Vietnam will pour more than \$3.1 million into a forestry resource investigation and evaluation program between now and 2010. Funding for this program was approved by Prime Minister Nguyen Tan Dung on November 9, and will be sourced from the annual budget of the Ministry of Agriculture and Rural Development. The program aims to help relevant agencies conduct comprehensive and consecutive forest investigations on a national scale, thereby working out a strategy to rationally utilize, protect and develop forestry resources for socio-economic development.

# **Wood Market Update**

## **Certification Gains Momentum in Some Markets**

### **Brazil**

Only an estimated 2 percent of the tropical wood produced in Brazil is derived from certified forests. Due to unsustainable forest production, wood production has an estimated deficit of approximately 200,000 hectares per year. Some estimates show that over 40 percent of Brazil's tropical wood production comes from illegal logging.

Currently, Brazil has 5.1 million hectares (in 17 states) of certified forests under the Forest Stewardship Council (FSC) scheme. Nearly 55 percent of the certified forests are located in the Amazon region (2.8 million ha) and the remaining 45 percent are planted forests (2.3 million ha). Another forest certification scheme used in Brazil is the Brazilian Forest Certification (CERFLOR) scheme. Recognized by the Program for the Endorsement of Forest Certification Schemes (PEFC) and regulated by the Brazilian Standards Institute (INMETRO), the CERFLOR scheme has 882,000 hectares of certified planted forests.

### **Denmark**

It is the policy of the Danish government that all wood used for public purposes should be certified, if possible. All board products are certified. PEFC certification is more common than FSC. It is the policy of the large wood importers to be able to supply certified wood products and also to increase the yearly sales of certified wood. This is not easy because certified wood is not always available—a problem in particular for wood sourced from the tropics. In addition, consumers to a certain extent are unwilling to pay the higher price for certified products.

### **France**

In July 2001, France joined the PEFC scheme. As of July 2005, 3.8 million hectares of forest, both private (33 percent) and public (67 percent) had been certified in France under PEFC. Only 15,000 hectares of French forest has been certified under the FSC scheme because French forests are often too small and too divided between private owners.

Under pressure from non-governmental organizations, some large do-it-yourself “superstore” retailers in France are asking that suppliers provide only certified wood and wood products. While the FSC label has been used, especially from wood products made of tropical wood, some retailers are now using the PEFC label.

### **Germany**

Approximately 65 percent of Germany's forests are PEFC certified. Only 6-7 percent, primarily municipal forests, is FSC certified. A number of community and smaller state forests are certified by both systems. Many of the small private forests are not certified at all. The vast majority of wood sawmills are chain of custody certified. This, however, does not imply that all of their output originates from certified forests.

## **Wood Market Update**

The German media frequently reports about FSC certification as a proof of proper sustainable forest management or verification that the wood was legally harvested. A number of do-it-yourself retail chains advertise their wood products as being FSC certified. Private customer awareness of forest certification is slowly increasing. Customers interested in products made from tropical wood species, in particular, are increasingly asking for the origin and legality of the products.

### **Russia**

Currently, the total area of certified forests in Russia is estimated at 6.4 million hectares. On September 15, 2006, two national initiatives for forest certification in Russia were announced under PEFC. The chairmen of the two national certification councils operating in Russia have signed a document establishing a national umbrella organization to represent both systems in PEFC. Both initiatives have revealed that they will submit their certification systems for PEFC endorsement.

## **Wood Market Update**

### **EU Public Procurement Regulations Press Markets Toward Certified Wood**

#### **France**

In April 2005, the French government decided that 50 percent of all public purchases of wood and wood products must comply with a sustainable development scheme by 2007 and that all purchases comply with this requirement by 2010. While specifically targeting tropical wood and wood product purchases, the French regulation also pertains to temperate hardwood purchases. Any sustainable scheme accredited by an official certifying organization such as FSC, PEFC, or FSI, should fulfill the requirement. The French regulation does not restrict public purchases of wood from specific countries.

Organizations such as Greenpeace and “Les Amis de la Terre” have also published brochures to encourage local or regional communities to purchase only FSC (and to a lesser extent PEFC) certified hardwood and hardwood products. These brochures deal mainly with tropical hardwood.

#### **Germany**

The German government is in the process of finalizing a public purchasing ordinance, which requires that all wood product purchases on the federal government level have to fulfill certain requirements – the Beschaffungsrichtlinie. This regulation is expected to require that all purchased wood has to originate from sustainable forests. The regulation will refer to PEFC, FSC or equivalent certification programs. Another option to fulfill the sustainability requirement is a confirmation document from the country or region of origin. Importing companies will be requested to maintain these documents for minimum five years.

Individual municipalities and state (Laender) governments still require FSC certification for their purchase programs. However, it is likely that a final federal purchasing rule may signal to the states with stricter requirements that certification systems other than FSC provide similar security that the timber products do not originate from illegal harvesting. Hamburg is the first German Land (state) to accept MTCC (Malaysian Timber Certification Council) certificates to allow the use of Malaysia’s tropical timber in official buildings and constructions.

## **Wood Market Update**

### **Furniture Industry's Demand for Wood Remains Strong**

#### **Brazil**

The Brazilian furniture sector is composed of more than 70,000 firms, mostly small companies, with a total gross income of \$4.1 billion. The Brazilian Association of Furniture Industry APEX/ABIMOVEL is a cost-sharing market promotion program valued at \$8.5 million (50 percent paid by APEX and 50 percent by industries from the furniture sector associated to ABIMOVEL) to promote Brazilian furniture in targeted markets, such as the United States, Europe, and Mexico. The goal is to increase furniture exports 19 percent per year and increase the current total export value of the sector to over \$1 billion. Promotional activities include: market research, trade shows, trade missions, reverse trade missions, advertising in specialized media, and publication of catalogs.

#### **Denmark**

With 2006 furniture production worth \$3.5 billion (of which 80 percent is exported), Denmark is a substantial importer of wood to support its furniture industry. Furniture exports to Germany are forecast to increase 11 percent to \$650 million in 2006. It is not possible to obtain figures for species-specific demand, but the bulk of furniture is made of medium density fiberboard and other fiber or particleboards and considered discount furniture. Exports of more traditional Danish (designed) furniture are still increasing for the Japanese and Nordic markets, as are sales on the domestic market. Outsourcing of furniture production to lower cost countries, such as China, continues to be a significant trend. The Danish furniture industry labor force declined 15 percent during the last three years. The number of furniture manufacturers declined from 580 to 342 during the same period.

A noteworthy trend is the outsourcing of production of furniture and other wood products to countries where production costs are lower. This has resulted in a small but escalating movement of Danish wood processing operations to Eastern European countries.

#### **France**

As with other wood industries, the French furniture industry is also a highly fragmented sector, with close to 60 percent of the companies having fewer than 50 workers. This situation has a negative affect on competitiveness, investment capacity and, to a lesser extent, innovation. Many founders and managers are close to retirement age and without an influx from a younger generation, many of these companies will be in peril.

The four major furniture distribution channels in France are large furniture outlets (45 percent of sales), stores specializing in sales by mail (25 percent), smaller traditional furniture stores (20 percent), and department stores (10 percent).

According to the American Hardwood Association (AHEC), some leading manufacturers of French furniture have shifted from buying mainly FAS grade (firsts and seconds), to more No. 1 common and even No 2. Sap is always disliked, but some other characteristics, like knots, have



## Wood Market Update

become acceptable and even fashionable. The current cherry specifications are similar to white oak specifications. Maple is mainly specified F1 white and limited quantities of red oak are required in FAS for molding or when long lengths are required. Increasingly, red alder is being used, possibly because of high cherry prices. Interest is also growing in tulipwood (known locally as tulipifera), and there is growing experimentation with new hardwood species (including Chilean lenga). Some furniture companies have recently invested in plants that use fiberboard/MDF, instead of wood, and this is causing some concern in the industry.

Both furniture and non-furniture sectors need logs and lumber, which are re-cut to specifications of grade, thickness and width demanded by French manufacturers. Logs are often further dried to 10-12 percent moisture content (preferred in European countries) rather than the U.S. standard of 6-8 percent.

### Germany

For 2006, the German furniture industry is reporting improved business. The furniture industry forecast production growth at 5.9 percent to a total of \$28 billion. The main segment of increase is the office furniture industry which is growing by a rate of 11 percent. Also, demand for kitchen furniture improved above average by 9 percent. As in previous years, demand for German furniture is increasingly driven by export markets, growing 14 percent during the first half of 2006. Aside from the directly neighboring countries Netherlands, France, Switzerland, and Austria, exports to Central and Eastern European countries are rising above average. In addition to the European markets, German furniture manufacturers are reaching out to the Near East. The export share of German furniture production amounts to 31 percent in 2006. On the European level, the European Association of Furniture Manufacturers (EFIC) is considering a label for European-made furniture to distinguish from low-price imports from East Asian competitors.

The German furniture industry consists of small-to-mid-sized industrial businesses. The number of furniture manufacturing companies has decreased 4 percent to 1,088 in 2006, which is about the same rate of consolidation during the past several years. At the same time, the number of employees also dropped 3 percent to approximately 101,000. This consolidation is partly due to the sluggish economic situation of recent years and the relocation of manufacturing plants to lower production cost countries in the East of Europe. A number of German furniture makers decided to move their production facilities to Poland and other central and eastern European countries because of significant cost advantages. Labor and investment costs are lower in Eastern Europe.

The furniture industry association reports that there has been a gradual change in the use of furniture in German homes. People seem to be looking for exquisite quality furniture instead simply filling the apartment with masses of furniture. Target groups for the industry are singles and senior citizens of 50 years of age and older, known as best-agers in Germany. The number of single households continues to grow in particular in metropolitan areas. Also the group of best-agers is increasing. Austrian, German, Swedish, and Danish customers are spending the most money per capita on furniture compared to people in other European countries. According to a 2004 report, German per capita furniture expenditures are reported at \$433. For comparison, French and Italian customers only spend \$240 per capita.

## **Wood Market Update**

The preference scale for wood species by the German furniture industry shows that white oak continues to experience a revival after many years of reductions. The leading two species are oak and beech. In general, consumers continue to favor light and light red color wood species. According to the furniture industry association, the top five European wood species are beech, white oak, cherry, alder, and birch. The demand for dark woods is increasing gradually.

### **Poland**

Poland is the fourth largest producer of furniture in the world, after China, Italy, and Germany. Annually, over 90 percent of all furniture production in Poland is exported. The value of furniture sales (domestic and export) in the first three quarters of 2006, totaled \$4.8 billion of which \$4.6 billion was exported. Polish exports of furniture in 2005 totaled \$5.7 billion (a 14-percent increase from 2004). Preliminary data for the first nine months of 2006 show a 10-percent increase from \$4.2 billion in 2005 up to \$4.6 in 2006. The majority of exports have been sold to the European Union, mostly Germany. Polish furniture exports in 2005 totaled \$152 million. Imports of furniture are less significant, but are also increasing. The value of furniture imported in 2005 reached \$901 million (17 percent-up compared with 2004), and in the first three quarters of 2006 it was \$707 million (8 percent-up from similar period of 2005). The majority of imports came from the EU, while 10 percent are from China.

According to Polish Chamber of Furniture Manufacturers, there are good prospects for the future of Polish furniture industry. European furniture producers face a difficult situation due to the lack of economic growth in Europe and increasing competition from new member-states and the Far East. This situation provides Poland opportunity to supply more to Europe. In addition, the developing domestic market provides increased opportunities for Poland's furniture manufacturers. There are some problems that the furniture industry faces, such as operations that are not official and don't pay taxes ("gray zone" operations), limited quantities of solid wood, the lack of promotion of furniture products, and growth in Far East imports. In spite of these problems, representatives of the sector are quite optimistic about their future. They estimate an average increase of 5 to 10 percent annually. The value of furniture production in 2010 is estimated between \$8.3 billion and \$10.4 billion.

### **Vietnam**

The wood processing industry, mainly wooden furniture for export, experienced rapid growth over the last five years. Annual growth rates were often 50 percent or more, and 2004 saw an increase of 96 percent over 2003. The upward trend continues, though at a somewhat less rapid pace. Vietnam currently has some 1,800 wood processing enterprises, 800 of which are mainly small to medium size companies, with 210 of these being Foreign Direct Invested (FDI) companies. Vietnam's low wages relative to neighboring countries has helped spur the growth of FDI companies in this sector, as has the U.S. anti-dumping case against bedroom furniture imports from China.

Under a long-standing program sponsored by the Ministry of Trade, exporters who undertake trade promotions, trade missions, or participate in overseas exhibitions are eligible for a 50

## **Wood Market Update**

percent reimbursement of costs applied to airfare and accommodations, booth rentals, and other related costs. The purpose of this policy is to encourage enterprises to develop export markets for Vietnamese products. Furniture exporters can apply for this reimbursement through the Vietnam Forestry Association or through Viet-Trade, a trade promotion agency of the Ministry of Trade. The Government of Vietnam has allocated funding of \$10 million for the overall export promotion program for 2007.

## **Wood Market Update**

### **Wood as Energy Source**

#### **China**

United States-based organic and natural food company SunOpta recently announced that it is selling what will be the first cellulosic ethanol plant in China. Cellulosic ethanol can be produced from basically any organic matter (agricultural waste, grasses, sewage, sludge, switchgrass, plant stalks, trees—virtually anything that contains carbon), instead of solely from traditional feedstock (corn, wheat, rice, sugar). Generally, cellulosic ethanol is not commercially viable, but China will test this with the first cellulosic ethanol production plant up and running by 2008. When viable, in China, most production plants will retrofit current ethanol production plants for lignocellulose production.

#### **Germany**

Rough estimates indicate that about 20 million cubic meters of wood is used for heating purposes in Germany, of which 14 million cubic meters are specifically harvested for this purpose. The rest is wood residues from the sawmilling industry. A study at the Muenster University recently calculated that crude oil prices of more than \$30/barrel will make the burning of beech wood economical.

The German wood pellet industry reports that already 52,000 households installed wood pellet heating equipment, which is an increase of 100 percent over 2005. Trade experts forecast that by 2015, up to 100,000 pellet heating units will be installed in German households. The production capacity for heating pellets is forecast to exceed the one million ton level in 2007. Currently, 32 processing facilities produce an estimated 550,000 MT of energy pellets, of which 420,000 MT are for domestic consumption. The main sources for the raw material are saw dust, wood chips, and other wood residues. The use of wood directly from the forest is rising.

#### **Korea**

Recently, Korea opened its first biomass power plant. The plant uses 145 tons of wood chips and pellets daily to generate 52 tons of steam and 50 kilowatts of electricity an hour. Korea has an estimated four million tons of leftover wood chips, equivalent to 1.6 million tons of oil.

#### **New Zealand**

There are several organizations presently conducting research and trials on producing “second generation” bio-fuels from a variety of different feedstocks. Most of these organizations are in the early stages of research. One joint venture is testing technology that ferments the by-products from forestry harvesting to produce ethanol. Another company is testing technology to extract chemicals from shrubby willow (silax) saplings, which can be grown on marginal land in temperate regions. The process uses every part of the plant, with extracts able to be converted into ethanol, lignin for plastics and xylose used as a sweetener.

## Wood Market Update

### Russia

The USAID-funded Renewable Development Initiative estimates Russia's overall annual technical biomass production potential at 35 million tons of oil equivalent. When converted to electrical power, biomass potential is 15,000 Megawatts electric (MWe). A 1000 MWe utility, at 60 percent load factor, generates 5.3109 kwh/year, which is enough for a city of about 1 million people (U.S. usage rates). This biomass estimate is based on sources including sewage sediment, cattle waste, and, most important for Russia, lumber mill waste.

Large biomass potential goes largely unfilled because of competitively priced electric power and high costs of entry into the bio-energy production industry. Despite these barriers, one plant exists in Russia, a 600-MWe plant in Kostroma, and one is planned. Currently, Russia uses only forestry industry waste for the production of wood granules (pellets) that can be used for bio-energy production. Granules are primarily exported, while domestic consumption of wood granules is very limited. According to some estimates, the share of bio-energy in the Russian "small energy" market is less than 0.3 percent, and the share in the total energy market is negligible. Minor use of wood pellets for production of energy (by burning) takes place in some private boiler houses and in some communal boilers in the forest regions of Russia. Present production of wood granules is concentrated in the forest regions of Russia close to border exit points and mainly in northwestern Russia, as most wood granules are exported to Europe.

The capacity of all wood pellet-producing plants in the northwestern federal district of Russia is 200,000 metric tons a year, but only a quarter of this capacity is used. Plant location and cost of production are prohibitive. Currently, several companies, including three German companies, one Italian, one American, and several small Russian companies sell equipment for wood pellet production, and their businesses are growing. The companies offer lines that can produce from 500 kg to four metric tons of pellets per hour. For 2006, three plants are planned at the expense of federal budget loans: in Tomsk oblast, in Komi Republic (near Syktyvkar), and in Nizhniy Novgorod oblast (near Vetluga). The total cost of construction of these plants will be 1.1 billion rubles (approximately \$40.7 million), including 50 million rubles (\$1.9 million) of federal money. There are also private projects in Arkhangelsk oblast, in Kaluga oblast, in Tver oblast, in Leningrad oblast, in Kareliya republic, and in Krasnoyarsk kray.

### Sweden

The greatest potential for increased domestic ethanol production in Sweden lies in wood ethanol. Etek's pilot project has resulted in the construction of a pilot plant which begun operating in early 2005. Production costs are currently high but are expected to decline substantially in the future, though not lower than the cost of producing ethanol in Brazil. Further expansion in Swedish production capacity for wood ethanol is expected to take place in about five years.

About 80 percent of Sweden's ethanol production is based on cereals. The remaining 20 percent is based on wood through fermentation of sulphite liquor, a by-product of chemical paper pulp production. Cereal-based ethanol is the additive used to reach the 5 percent ethanol requirement for gasoline in Sweden. Ethanol produced from sulphite liquor is utilized in 85 percent ethanol (E85) for clean flexi-fuel vehicles.

## **Wood Market Update**

Solid Wood Annual Reports can be extracted from the Attaché Report search engine at:  
<http://www.fas.usda.gov/scriptsw/attacherep/default.asp>

For further information, please contact Tony Halstead at 202-720-1001, or send an email to [Tony.Halstead@fas.usda.gov](mailto:Tony.Halstead@fas.usda.gov)